

Appl. No. 10/616,718
Amdt. Dated May 29, 2007
Reply to Office action of February 1, 2007

Amendments to the Claims:

This claim listing will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

Claim 1 (Previously presented): A method for distributed data mining, comprising the steps of:

invoking agents by a mediator;

beginning attribute selection by a plurality of agents;

passing a best attribute from each of said plurality of agents to said mediator

wherein a best attribute is an attribute having a highest information gain as between attributes found by the respective agent;

selecting a winning agent from said plurality of agents by said mediator;

initiating data splitting by said winning agent;

forwarding split data index information resulting from said data splitting by said winning agent to said mediator;

forwarding said split data index information from said mediator to each of said plurality of agents;

initiating data splitting by each of said plurality of agents other than said winning agent;

generating and saving partial rules; and

outputting complete rules to said plurality of agents.

Claim 2 (Original): A method as claimed in claim 1, wherein said plurality of agents include non-winning agents, and further comprising the step of:

obtaining split data index information by said non-winning agents from said mediator.

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Claim 3 (Original): A method as claimed in claim 1, wherein said split data index information is compressed.

Claim 4 (Previously presented): A method for distributed data mining, comprising the steps of:

invoking a plurality of agents at a corresponding plurality of distributed data locations, each of said agents identifying local attributes that split the data of corresponding local data location into classes;

each of said agents determining a local attribute having a highest information gain for the respective local data locations;

forwarding the local attribute having the highest information gain for each of the agents local data locations to a mediator;

selecting an attribute having a highest information gain from among the local attributes received by the mediator, said selected attribute being considered a winning attribute;

distributing the winning attribute to said plurality of agents for application to the data of the local data locations to split the local data;

invoking said plurality of agents to identify further local attributes of the split data at the local data locations;

at each local data location determining the further local attributes having a highest information gain for the split data;

forwarding the further local attributes having a highest information gain for each local data location to the mediator;

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selecting an attribute having a highest information gain from among the further local attributes received by the mediator to provide a further winning attribute; and

distributing the further winning attribute to each of the distributed data locations for application to provide further split data at the local data locations.

Claim 5 (new) A method for distributed data mining, comprising the steps of:

invoking a plurality of agents by a mediator;

beginning attribute selection by each agent, wherein attribute selection being the selection of one data attribute from a set of local data attributes unique to the respective agent such that the selected data attribute has substantially the highest information gain value among all local attributes;

collecting the highest information gain values from the plurality of agents by the mediator, wherein the highest information gain value of a respective agent is based on its own local data with its own unique data attributes;

selecting by the mediator of a winning agent, wherein the winning agent is the only agent from the plurality of agents with access to the local data attribute with the highest global information gain value;

initiating data splitting by said winning agent based on the value of the data attribute with the highest information gain wherein the specified data attribute is unique to the respective agent's local data;

forwarding split data index information resulting from said data splitting by said winning agent to said mediator;

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forwarding said split data index information from said mediator to each of said plurality of agents;

initiating data splitting by each of said plurality of agents other than said winning agent based on the split data index information furnished by the winning agent and broadcasted by the mediator;

generating and saving partial rules by repeating the attribute selection and data splitting process recursively and by tracking the attribute/split information coming from that iteration's winning agent; and

outputting complete rules obtained at the completion of the mining process to said plurality of agents.